

**U.S. Department of Energy- Idaho Operations Office  
National Environmental Policy Act  
Categorical Exclusion Determination**

**Project Title:** LLNL Wawona Experiment

**Project Description and Purpose:**

The Idaho National Laboratory (INL) will collaborate with Lawrence Livermore National Laboratory (LLNL) to support the design and execution of an experiment aimed at advancing diagnostic capabilities for future reactor neutron experiments. LLNL will lead the design and analysis of the experimental setup, which will include instrumentation and fuel components. INL will be responsible for peer review and approval of the experiment design and analysis. Once the experiment is finalized, it will be shipped to INL along with the associated special nuclear material (SNM). Upon receipt, INL will be responsible for receipt inspection and will work in conjunction with LLNL personnel to complete final assembly of the experiment and irradiation testing at the Transient Reactor Test Facility (TREAT). The experiment will involve the use of Resistance Temperature Detectors (RTDs) on a Special Nuclear Material (SNM) platform, while simultaneously performing a separate Fiber-Bragg Grating (FBG)-based strain measurement experiment. The experimental results will be collected by LLNL for review and to inform future project development. No destructive analysis will be conducted at INL.

The less than 10g of SNM shipment to and from INL is covered by LLNL 2023 Sitewide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory, DOE/EIS-0547. The INL is not the end user of the experiment material and will handle it as SNM while onsite, the material will remain subject to safeguard controls after irradiation and will be returned rather than disposed of as waste.

A one-time generation of less than five pounds of contact-handled low-level radioactive waste (CH-LLW)—including gloves, wipes, smears, and PPE materials—is expected, along with up to one cubic foot of low-level waste from experiment support materials following irradiation. There will be no sodium or transuranic waste generated during this project.

All waste will be packaged, managed, and disposed in accordance with BEA Waste Management Program (WMP) requirements, including applicable TRU Program requirements if applicable, and assistance from the WMP's Waste Generation Services (WGS) subcontractor.

**Environmental Aspects or Potential Sources of Impact:**

**Air Emissions**

NA

**Discharging to Surface-, Storm-, or Ground Water**

NA

**Disturbing Cultural or Biological Resources**

NA

**Generating and Managing Waste**

NA

**Releasing Contaminants**

When chemicals are used during the project there is the potential for spills that could impact the environment (air, water, soil).

**Using, Reusing, and Conserving Natural Resources**

NA

**Determination**

For Categorical Exclusions (CXs), the proposed action must not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environmental, safety, and health, or similar requirements of Department of Energy (DOE) or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment or facilities; (3) disturb hazardous substances, pollutants,

**U.S. Department of Energy- Idaho Operations Office**  
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Page 2 of 2

Categorical Exclusion Posting No.: DOE-ID-INL-25-047

contaminants, or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources (see 10 CFR 1021); (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Appendix B. The proposal has not been segmented to meet the definition of a categorical exclusion. Segmentation can occur when a proposal is broken down into small parts in order to avoid the appearance of significance of the total action. However, segmentation does not include proposals that are developed and potentially implemented over multiple phases where each phase results in a decision whether to proceed to the subsequent phase. There is no extraordinary circumstance related to the proposal that is likely to cause a reasonably foreseeable significant adverse effect or for which DOE does not know the environmental effect. Extraordinary circumstances are unique situations presented by specific proposals, including, but not limited to, scientific controversy about the environmental effects of the proposal; uncertain effects or effects involving unique or unknown risks; and unresolved conflicts concerning alternative uses of available resources.

**References:** B3.6 "Small-scale research and development, laboratory operations, and pilot projects"  
DOE/EIS-0547: Site-Wide EIS for Continued Operation of the Lawrence Livermore National Laboratory; Livermore, California

**Justification:** Shipping of SNM and SNF has been reviewed and analyzed in the DOE/EIS-0547. Site-Wide EIS for Continued Operation of the Lawrence Livermore National Laboratory; Livermore, California.

For the DOE regulations regarding the application of categorical exclusions, including the full text of each categorical exclusion, see 10 CFR 1021.102 and Appendix B to 10 CFR Part 1021. Implementing guidance for categorical exclusions can be found in DOE's National Environmental Policy Act Implementing Procedures (June 30, 2025): (See full text in regulations and implementing procedures).

The proposal must fit within the classes of actions listed in Appendix B to 10 CFR Part 1021 and must satisfy the conditions that are integral elements of the classes of actions therein.

There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal. DOE or an applicant may modify the proposal to avoid reasonably foreseeable adverse significant effects such that the categorical exclusion would apply.

The proposal has not been segmented to meet the definition of a categorical exclusion.

B3.6 Small-scale research and development, laboratory operations, and pilot projects. Siting, construction, modification, operation, and decommissioning of facilities for small-scale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

Approved by Robert Herzog, DOE-ID NEPA Compliance Officer on: 12/10/2025